Illinois Commerce Commission
527 E. Capitol Ave.
Springfield, IL 62701

March 10, 2022

Dear Mr. Zolnierek,

Advanced Energy Economy (AEE) appreciates the time ICC Staff has taken to host both the informational meetings and workshop series to educate stakeholders on potential applications of energy storage and to gain input from stakeholders on this important technology. AEE represents companies that manufacture both short-duration and long-duration battery systems as well as electric vehicle (EV) DC fast-charging stations that possess a storage element. AEE members are also deploying storage at a variety of scales for both front-of-the-meter and behind-the-meter applications. We view storage as a key technology in Illinois as it implements its 100% renewable portfolio standard by 2045 and believe that expeditious deployment of energy storage is critical to ensuring the state has reliable, affordable, and clean electricity.
Below we have provided some initial comments focused primarily on behind-the-meter storage based on Staff's recommendations and hope that they provide insight into the future possibilities of energy storage in Illinois.

Comments:
Staff states that "it is apparent that setting specific energy storage deployment targets to be achieved by Illinois' larger electric utilities is premature at this time. The relative nascence of many storage technologies, the lack of direct operational experience with most of the burgeoning energy storage technologies by Illinois public utilities, and the lack of detailed cost and benefit information resulting from actual Illinois energy storage system deployment and operation experience are all contributing factors to this conclusion." While we acknowledge that storage markets and technologies are still evolving, in Illinois and elsewhere, we do not believe that a lack of detailed cost and benefit information resulting from actual Illinois energy storage deployment should prevent Illinois from considering an energy storage standard.

Storage markets are growing rapidly throughout the United States, and there is ample experience with the technology which can be used to inform sound policy development in Illinois. In Q3 of 2021 alone, the US storage market added 1,140 MW of new capacity.[1] Also, according to the U.S Energy Storage Monitor, the energy storage market size is expected to be approximately $11.5 billion by 2026. In its Storage Futures Study, the Department of Energy's National Renewable Energy Lab has demonstrated that small-scale battery systems are expected to increase dramatically in quantity and are a cost-effective solution to improving grid flexibility when paired with other distributed energy resources (DERs) and as a stand-alone resource.[1] We see this research and the overall market trend for storage as strong indicators that energy storage is a viable technology in the electricity sector, and has the confidence of investors, power project developers, and customers. Other states, including California and New York, have also implemented storage targets along with other policies designed to foster storage deployment.

We therefore are of the firm belief that Illinois can proceed down a more aggressive path than the one proposed by Staff, which focuses almost entirely on pilot programs. We support the pilots included in P.A. 102-0662, and we are generally supportive of the role that well-designed pilots have to play with respect to testing new technologies and business models. Nevertheless, given the state's ambitious clean energy targets, Staff should be focused on ways it can prudently support commercial storage deployment, while recognizing that pilots alone are likely to fall short of what the state needs at this time.

AEE believes that the Commission could develop a program that achieves the dual goals of maximizing value from storage and minimizing costs in the near term while ensuring that enough storage is deployed over the long term to reach the state's clean energy goals. The program should address both larger front-of-the-meter opportunities and smaller, distributed opportunities. For distributed storage, this program could compensate storage systems based on the value provided by the storage and create goals as a backstop to provide additional support should the compensation fail to drive enough deployment to fulfill the technical requirements necessary to reach Illinois' ambitious clean energy goals. In order to quantify this compensation,

[1] Storage Futures Study Distributed Solar and Storage Outlook, National Renewable Energy Lab, 2021, found here: https://www.nrel.gov/docs/fy21osti/79790.pdf

better data is needed on what costs are avoided on the distribution system and what emissions are avoided through energy arbitrage. Distribution costs lack transparency and granularity of costs on the bulk power system. However, these concerns should be addressed in ComEd and Ameren's multi-year integrated grid plans that will be filed later this year. A study of technical capabilities needed to achieve clean energy goals, coordinated with PJM and MISO, can inform a deployment goal. Such a program would need to value energy storage systems based on applications in the distribution network, as well as potential applications as a wholesale market asset in MISO and PJM as a result of FERC O.2222 implementation. To determine the value of these potential revenue streams, we encourage Staff developing an approach to fully valuing the avoided costs from increased DER penetration. California and New York have both taken similar steps to accurately identify the value of these resources, including distributed storage, through the California Public Utility Commission's DER avoided cost calculator and the New York Public Service Commission's Value of Distributed Energy Resources docket.[2] We see this as a reasonable middle ground compared to setting a storage target alone because such a program would primarily put the economic risk on third-party developers to determine the cost-effectiveness of a storage system on ComEd and Ameren's distribution systems.

Finally, Staff recommends performing a total resource cost test and a ratepayer impact test to identify the costs and benefits of behind-the-meter storage pilot programs. To capture the value of utility-scale energy storage systems operating in the wholesale market, a production cost model or capacity expansion model is necessary. We support Staff's view that the state can draw upon its experience with energy efficiency to inform behind-the-meter energy storage. We also support the principle that even hard to quantify benefits should be included by making use of appropriate techniques for estimation. We also encourage Staff to consider the development of a jurisdiction-specific test using the methodologies provided in the National Standard Practice Manual (NSPM) for Cost-Benefit Analysis of Distributed Energy Resources. The NSPM serves as a policy-neutral tool for regulators to use when determining the costs and benefits of specific DER projects including energy storage projects. Using this tool would allow the Commission to

[2] Avoided Cost Calculator for Distributed Energy Resources, Energy+Environmental Economics, 2021, found here: https://www.ethree.com/public_proceedings/energy-efficiency-calculator/
Case 15-E-0751: Value of Distributed Energy Resources, New York Public Service Commission, found here: https://www3.dps.ny.gov/W/PSCWeb.nsf/All/8A5F3592472A270C8525808800517BDD?OpenDocument

better understand key issues that Staff has identified in its recommendations including costs and benefits of behind-the-meter storage systems to ratepayers. Using the NSPM could give the Commission a more comprehensive understanding of the total system cost and benefits associated with adding new behind-the-meter storage projects across both Ameren and ComEd's distribution networks. The Maryland Commission recently completed development of such a test for electric vehicles, and their process and outputs there could be beneficial to inform the Commission in this instance.[3] Lastly, with respect to the application of benefit-cost analysis to pilots, we would caution the Commission that the economics of pilots may look very different from the economics of full-scale commercial implementation.

Thank you for taking the time to review these comments, and we look forward to engaging with ICC Staff in upcoming proceedings.

Sincerely,

Ryan Katofsky
Managing Director
Advanced Energy Economy

Rkatofsky@aee.net

Robert Haggart
Policy Associate
Advanced Energy Economy

Rhaggart@aee.net

[3] Case 9478, Maryland Public Service Commission, found here: http://webapp.psc.state.md.us/newIntranet/Casenum/CaseAction_new.cfm?CaseNumber=9478